

BookletChartTM

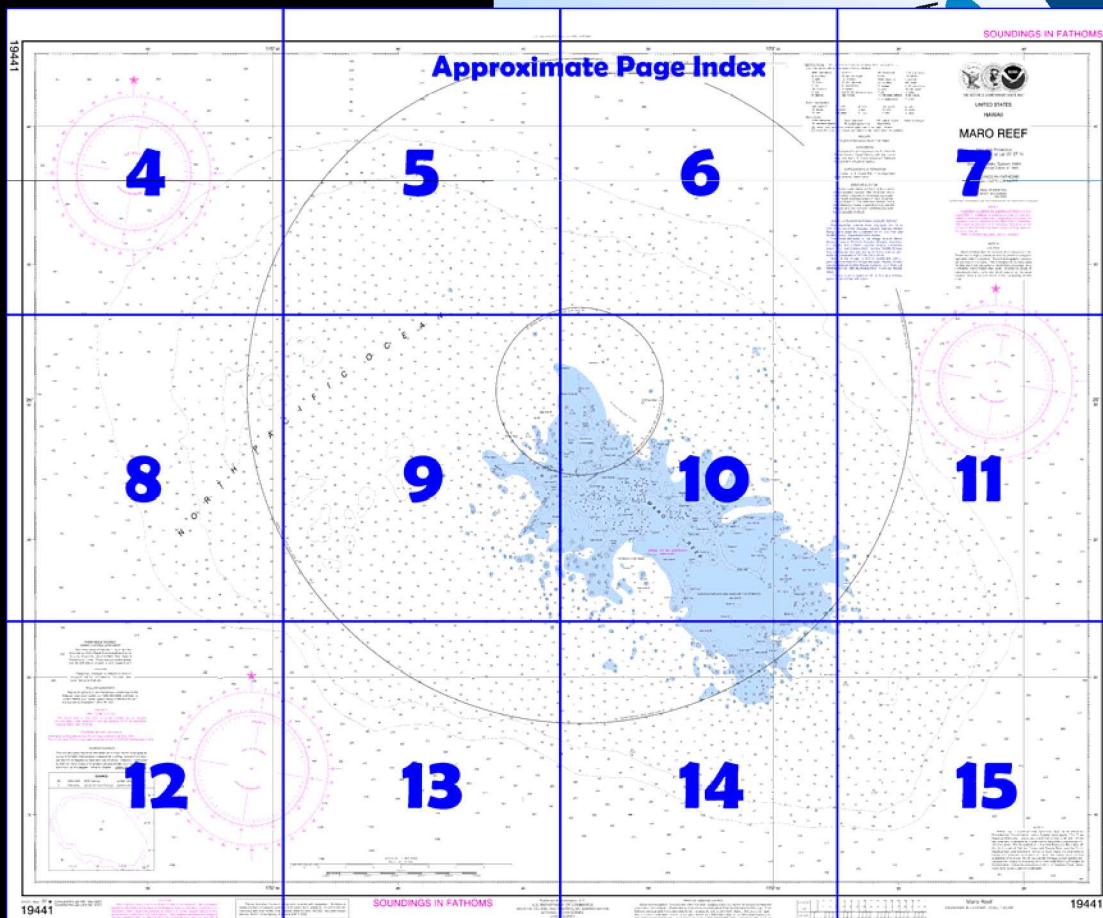
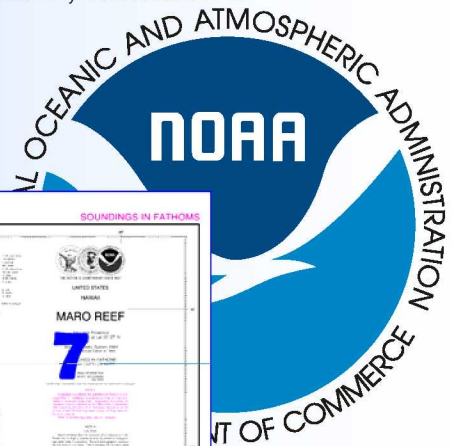
Maro Reef

(NOAA Chart 19441)



A reduced scale NOAA nautical chart for small boaters. When possible, use the full size NOAA chart for navigation.

- ✓ Complete, reduced scale nautical chart
- ✓ Print at home for free
- ✓ Convenient size
- ✓ Up to date with all Notices to Mariners
- ✓ United States Coast Pilot excerpts
- ✓ Compiled by NOAA, the nation's chartmaker.



Home Edition (not for sale)



What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

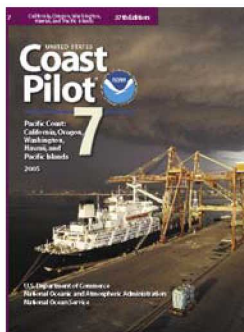
This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.



[Coast Pilot 7, Chapter 14 excerpts]

(930) **Maro Reef** (25°25'N., 170°35'W.), is about 60 miles W of Raita Bank. It was discovered by Captain Allen of the whaler MARO in June 1820. The large, oval-shaped, coral bank is about 31 miles long in a NW direction and about 18 miles wide. The center of the bank is a large area of reefs awash. This broken area, about 12 miles long in a NW direction and 5 miles wide, is extremely foul, with many coral heads awash and channels of deep water between. Only one very small

rock, about 2 feet high and on the N side of the reef, shows above high water. The broken part of the reef is practically always marked by breakers. The wide shelf of the bank is outside the broken part of the reef. (931) Breakers, or the light blue-green color of the area within the broken portions of the reef, give the first warning of the proximity of danger. All maneuvering in the vicinity of the broken area must be done with

extreme caution and with the sea and light such that shoal spots can be seen and avoided. Ordinarily, spots with less than 6 fathoms of water are plainly visible.

(932) There are no known dangers more than 3.3 miles from the general outline of broken portions of Maro Reef, thus leaving a navigable shelf with depths of 12 to 20 fathoms on all sides but the NE where depths of 7 to 10 fathoms are found.

(933) In the vicinity of Maro Reef the prevailing current sets W, but variable currents have been noted. Over the bank a rotary tidal current, turning clockwise, has been reported.

Table of Selected Chart Notes

TIDAL INFORMATION
No tidal data available.
Oct. 2002

Corrected through NM May 05/07
Corrected through LNM Apr. 24/07

HEIGHTS
Heights in feet above Mean High Water.

Mercator Projection
Scale 1:80,000 at Lat 25° 27' N

World Geodetic System 1984
(North American Datum of 1983)

SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

HORIZONTAL DATUM
The horizontal reference datum of this chart is World Geodetic System 1984 (WGS 84), which for charting purposes is considered equivalent to the North American Datum of 1983 (NAD 83). The projection of this chart was shifted from a local datum by means of georeferenced satellite imagery and has not been confirmed by land-based geodetic methods.

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

AUTHORITIES
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the U. S. Coast Guard and National Geospatial-Intelligence Agency

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 7 for important supplemental information.

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOTE D
SHIP REPORTING SYSTEM
The following vessels entering or departing any U.S. port of place and in transit through the reporting area are required to report into the System: all vessels 300 gross tons or greater and all vessels in the event of a developing emergency. The following vessels in transit through the reporting area should report into the System: all vessels 300 gross tons or greater, fishing vessels, and all vessels in the event of a developing emergency. See IMO SN.1, Circ. 273. Information concerning the Ship Reporting System is also published in the U.S. Coast Pilot 7, Chapters 2 and 14, and updated through Notices to Mariners. Information may also be obtained at the Office of the Commander, 14th Coast Guard District in Honolulu, or at the Office of the District Engineer, Corps of Engineers, in Honolulu.

NOTE B
CAUTION
Much of Maro Reef is covered at all stages of tide. There are no highly visible objects by which a navigator can determine his position. Recent hydrographic surveys do not exist in this area. The hydrographic surveys used for this chart did not achieve full bottom coverage, thus uncharted coral heads may exist. Uncharted areas of submerged reef of unknown depth may exist. Extreme caution should be exercised when navigating in this area.

NOTE C
AREA TO BE AVOIDED
All vessels solely in transit should avoid the area (MSC IMO SN.1/Circ.263).

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 14th Coast Guard District in Honolulu, Hawaii or at the Office of the District Engineer, Corps of Engineers in Honolulu, Hawaii.
Refer to charted regulation section numbers.

Additional information can be obtained at nauticalcharts.noaa.gov.

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

COLREGS, 80.1410 (see note A)

International Regulations for Preventing Collisions at Sea, 1972.
The entire area of this chart falls seaward of the COLREGS Demarcation Line.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

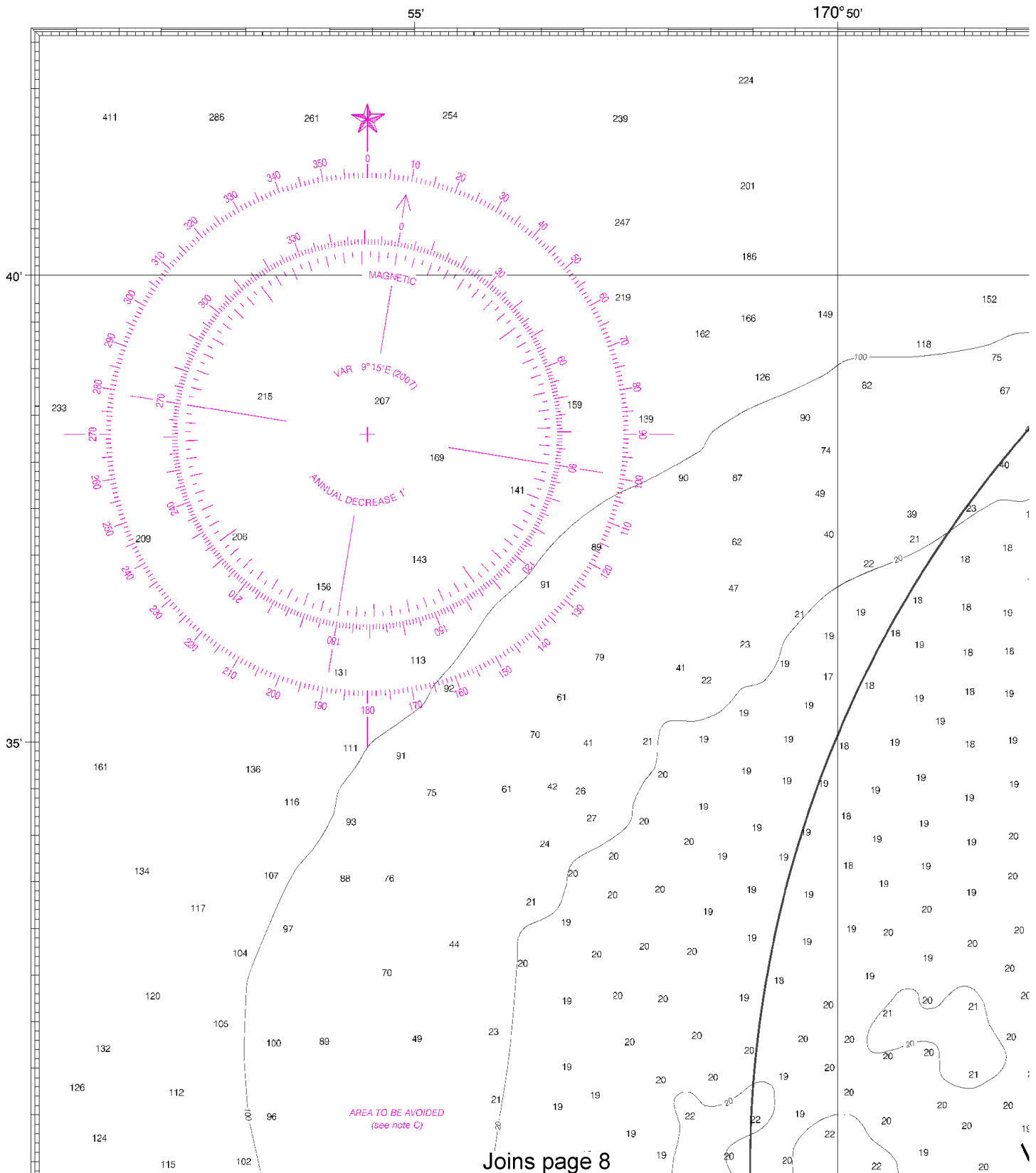
ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):			
AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow
Bottom characteristics:			
Blds boulders	Co coral	gy gray	Oys oysters
bk broken	G gravel	h hard	Rk rock
Cy clay	Grs grass	M mud	S sand
Miscellaneous:			
AUTH authorized	Obstr obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	
① Wreck, rock, obstruction, or shoal swept clear to the depth indicated.			
② Rocks that cover and uncover, with heights in feet above datum of soundings.			

PRINT-ON-DEMAND CHARTS

NOAA and its partner, OceanGrafix, offer this chart updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts or contact NOAA at 1-800-584-4683, <http://NauticalCharts.gov>, help@NauticalCharts.gov, or OceanGrafix at 1-877-56CHART, <http://OceanGrafix.com>, or help@OceanGrafix.com.

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Joins page 8

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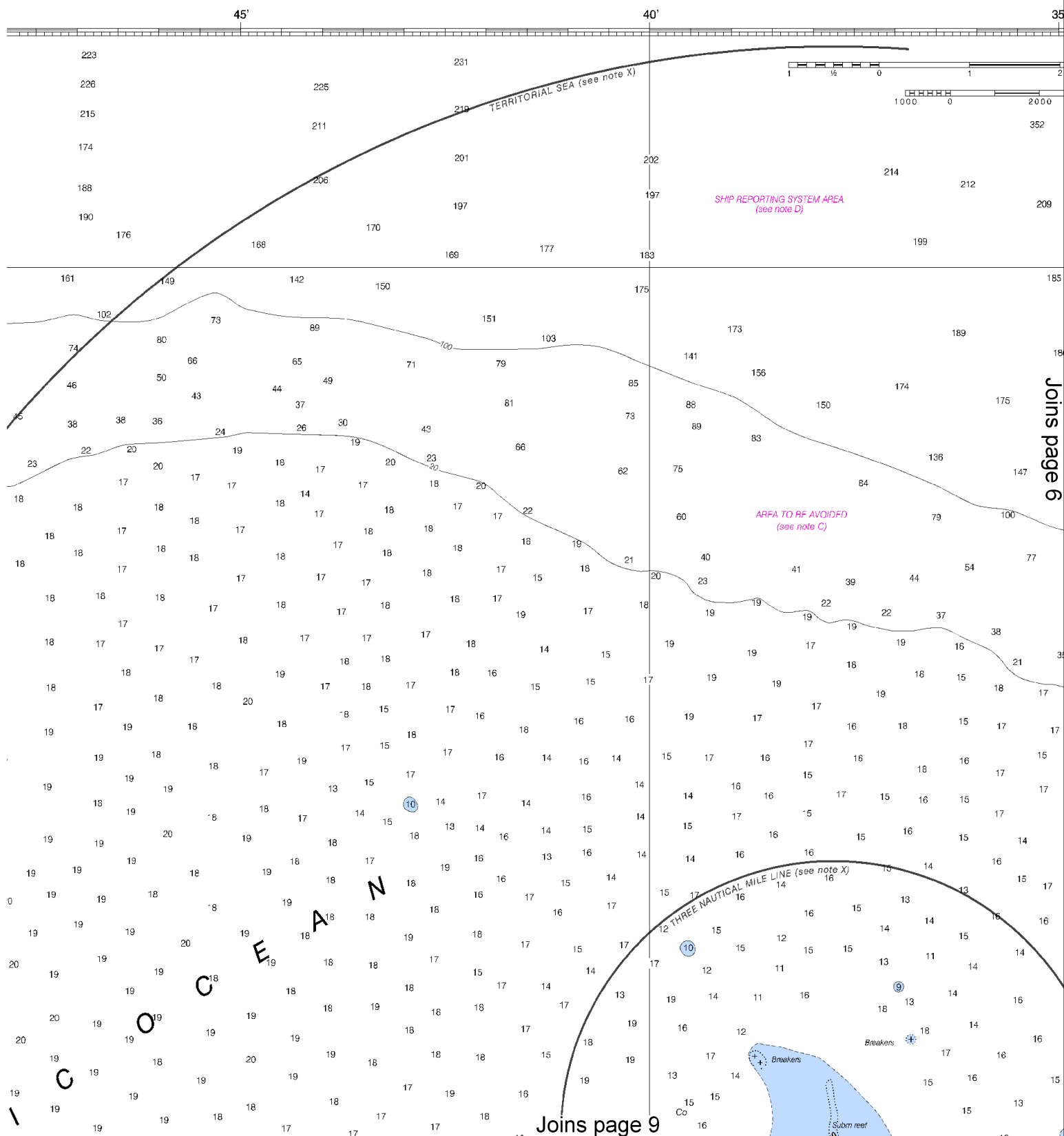


Printed at reduced scale.

SCALE 1:80,000

See Note on page 5.





This BookletChart was reduced to 75% of the original chart scale.
 The new scale is 1:106667. Barscales have also been reduced and
 are accurate when used to measure distances in this BookletChart.

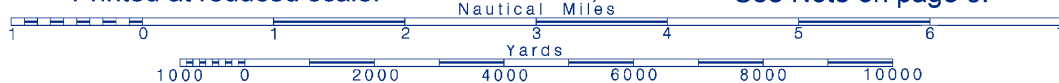
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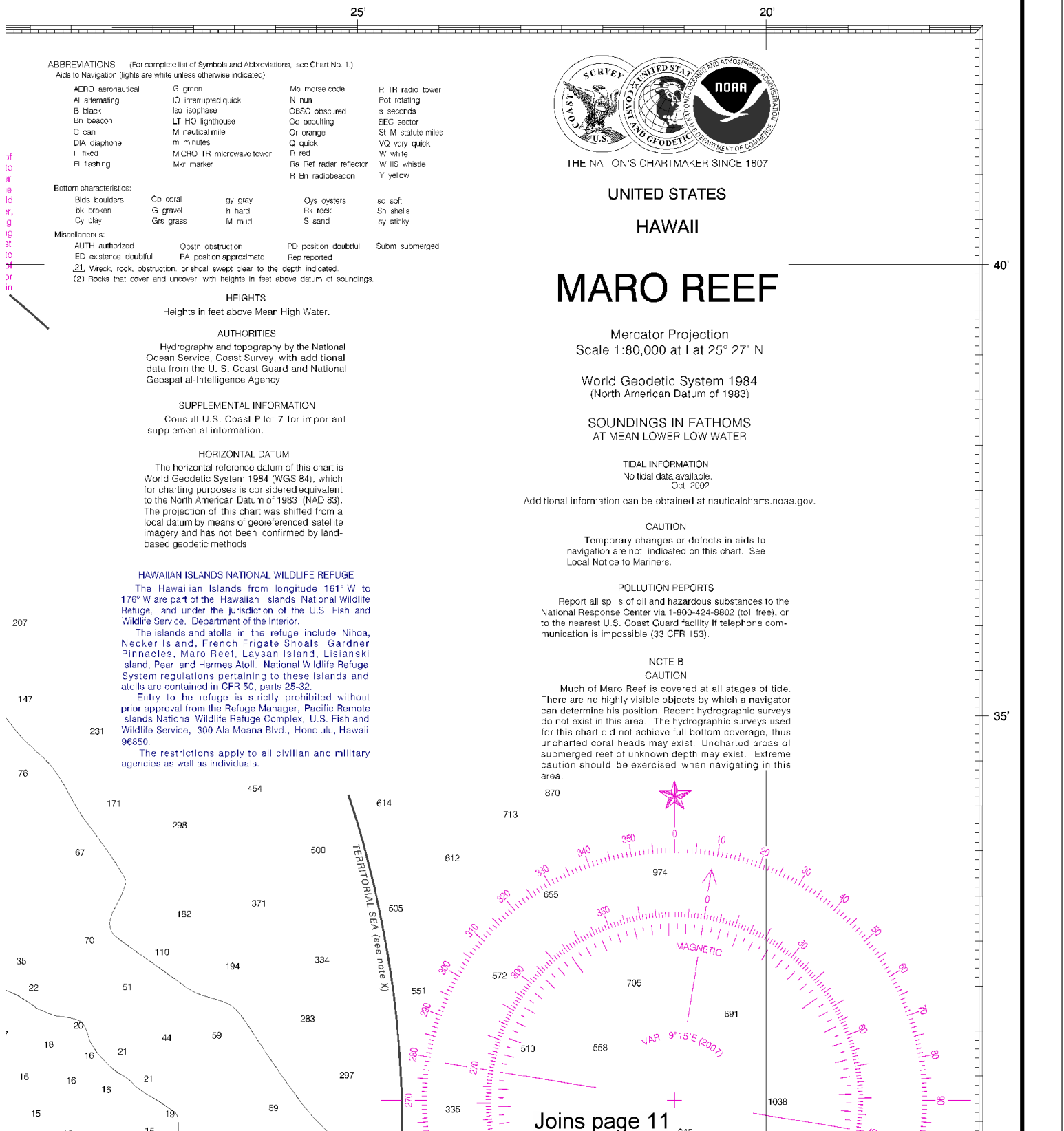
Printed at reduced scale.

~~SCALE 1:80,000~~

See Note on page 5.



SOUNDINGS IN FATHOMS



This BookletChart has been updated with: Coast Guard Local Notice To Mariners: 0710 2/16/2010,
NGA Weekly Notice to Mariners: 0910 2/27/2010,
Canadian Coast Guard Notice to Mariners: n/a .

Joins page 4

AREA TO BE AVOIDED
(see note C)

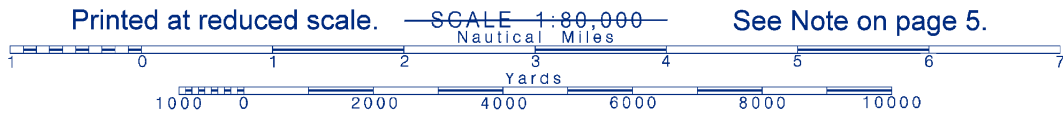
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30'

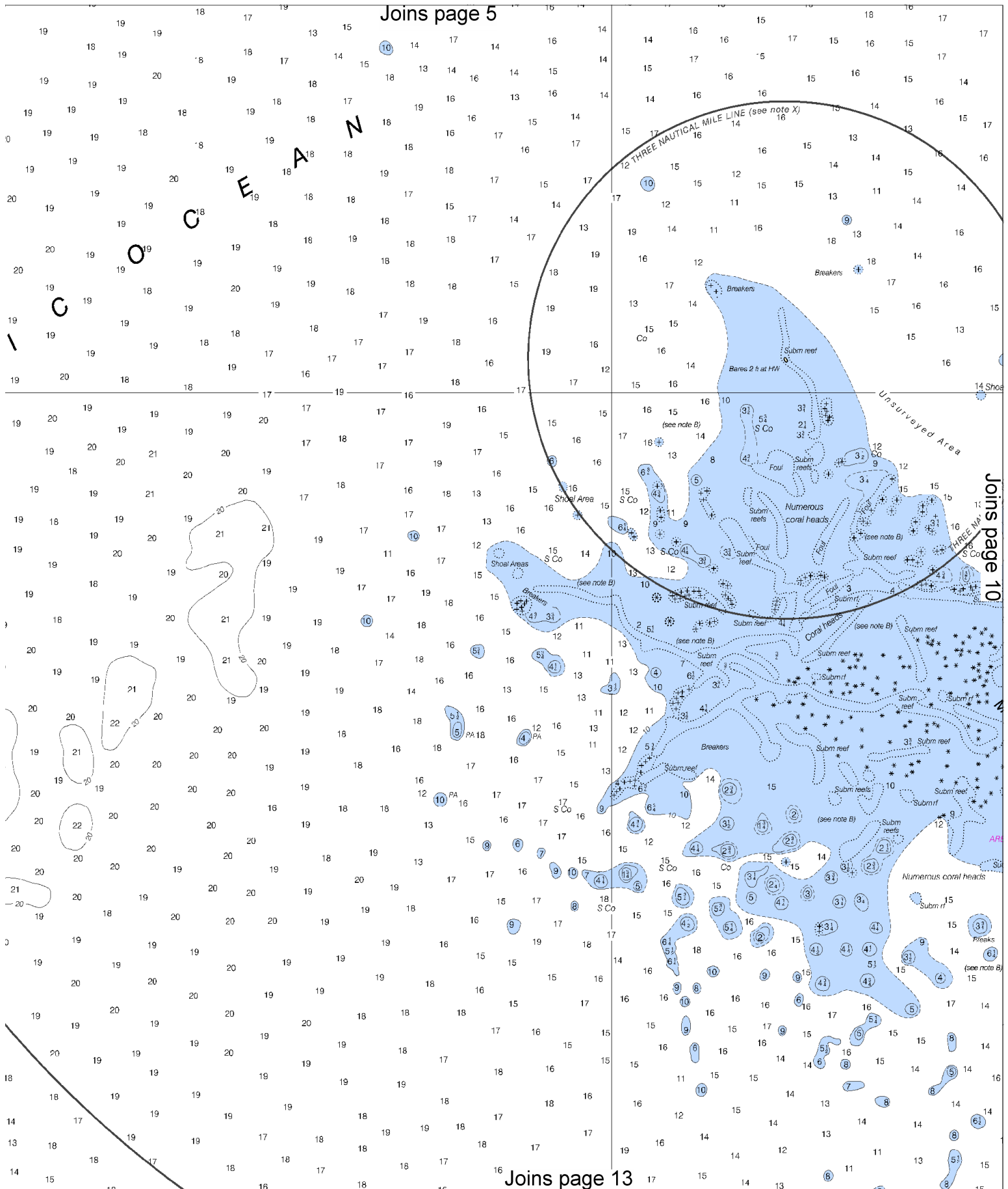
25'

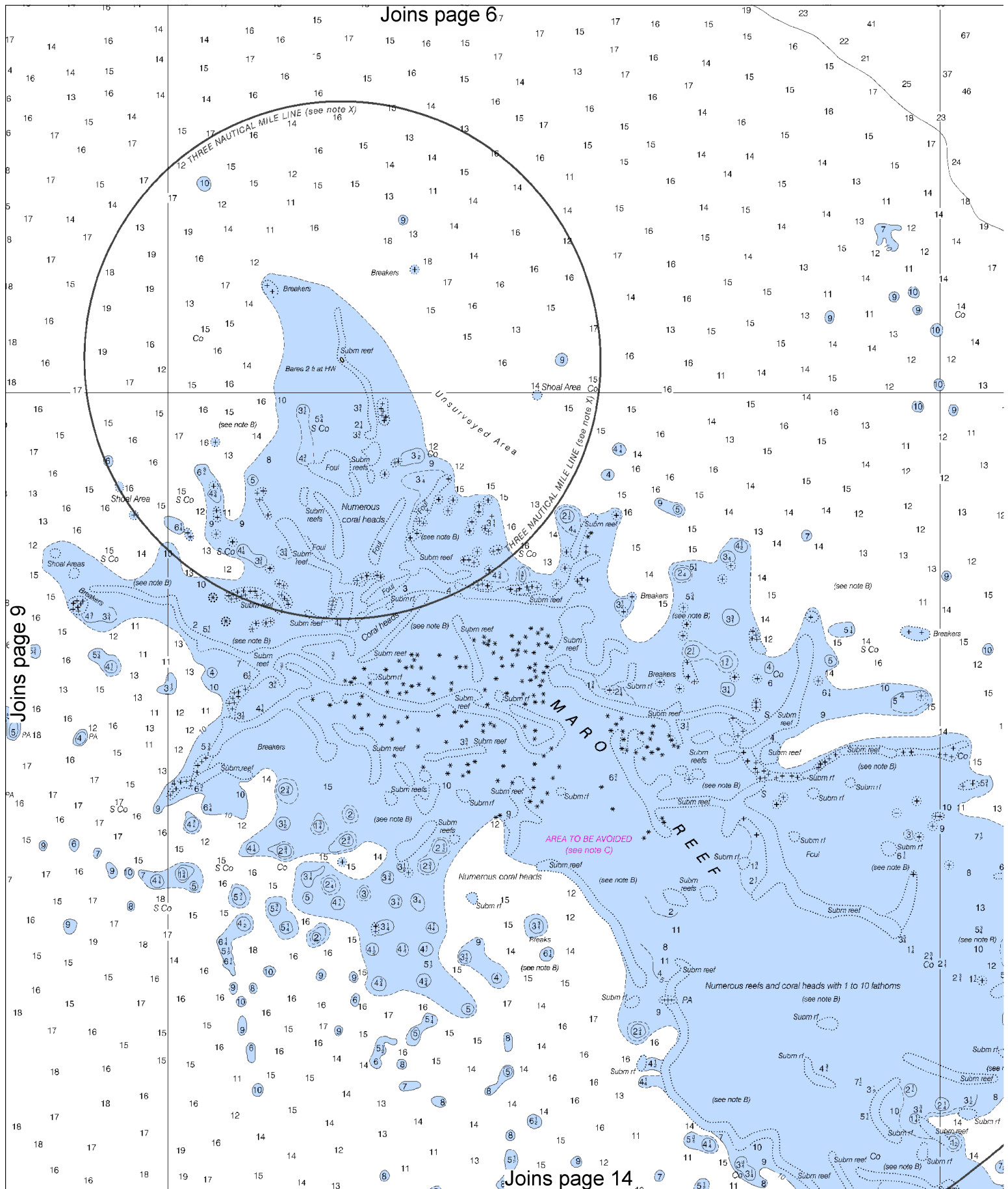
PAPAHĀNAUMOKUĀKEA
MARINE NATIONAL MONUMENT
The entire area of this chart lies within the
boundaries of the Papahānaumokuākea Marine
National Monument and the Maui Reef Special
Preservation Area. Those are protected areas.
See 50 CFR 404 or Chapter 2, U.S. Coast Pilot 7.

Joins page 12₃₅

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Joins page 9

Joins page 14

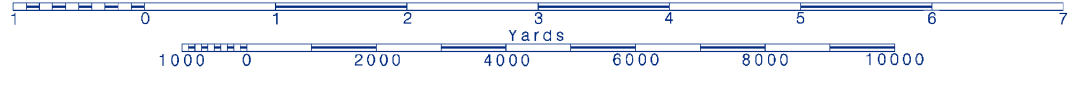
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Printed at reduced scale.

SCALE 1:80,000

See Note on page 5.





**PAPAHĀNAUMOKUĀKEA
MARINE NATIONAL MONUMENT**

The entire area of this chart lies within the boundaries of the Papahānaumokuākea Marine National Monument and the Maro Reef Special Preservation Area. These are protected areas. See 50 CFR 404 or Chapter 2, U.S. Coast Pilot 7.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 14th Coast Guard District in Honolulu, Hawaii or at the Office of the District Engineer, Corps of Engineers in Honolulu, Hawaii.
Refer to charted regulation section numbers.

PARTICULARLY SENSITIVE SEA AREA

This chart falls entirely within the limits of a Particularly Sensitive Sea Area (PSSA). A PSSA is an environmentally sensitive area in which and around which mariners should exercise extreme caution. See U.S. Coast Pilot volumes for information regarding this area.

**NOTE C
AREA TO BE AVOIDED**

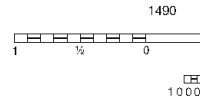
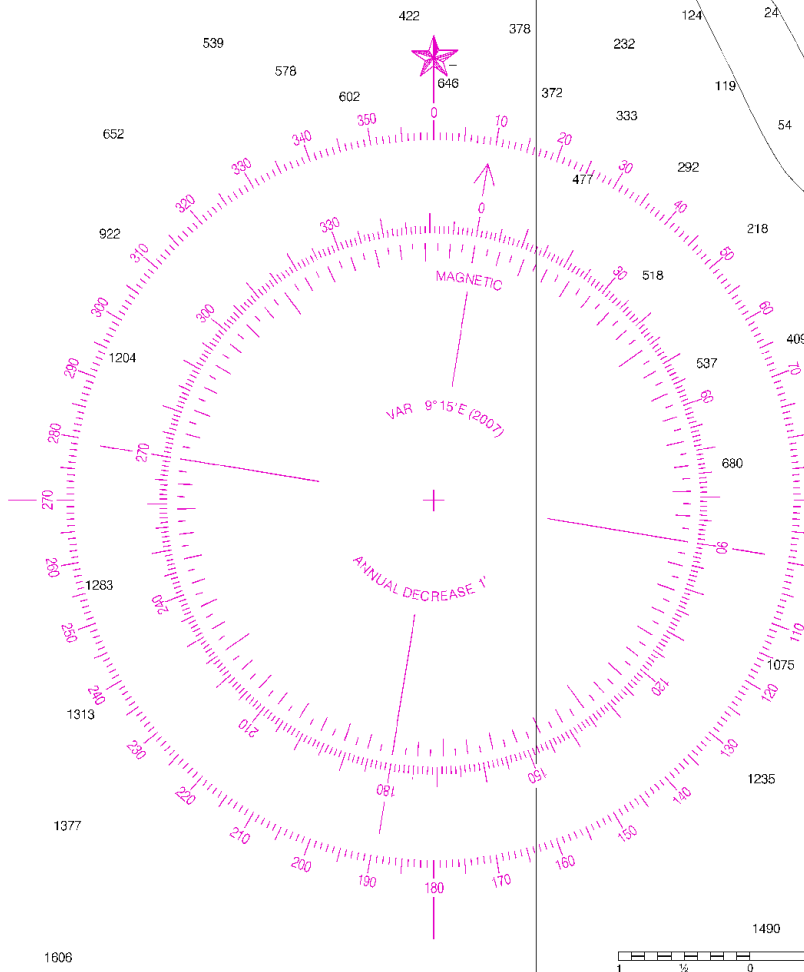
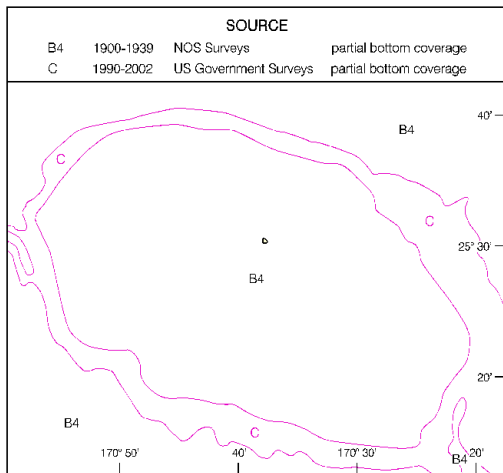
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SOURCE DIAGRAM

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SOURCE

B4	1900-1939	NOS Surveys	partial bottom coverage
C	1990-2002	US Government Surveys	partial bottom coverage



8th Ed., May / 07 ■ Corrected through NM May 05/07
Corrected through LNM Apr. 24/07

19441

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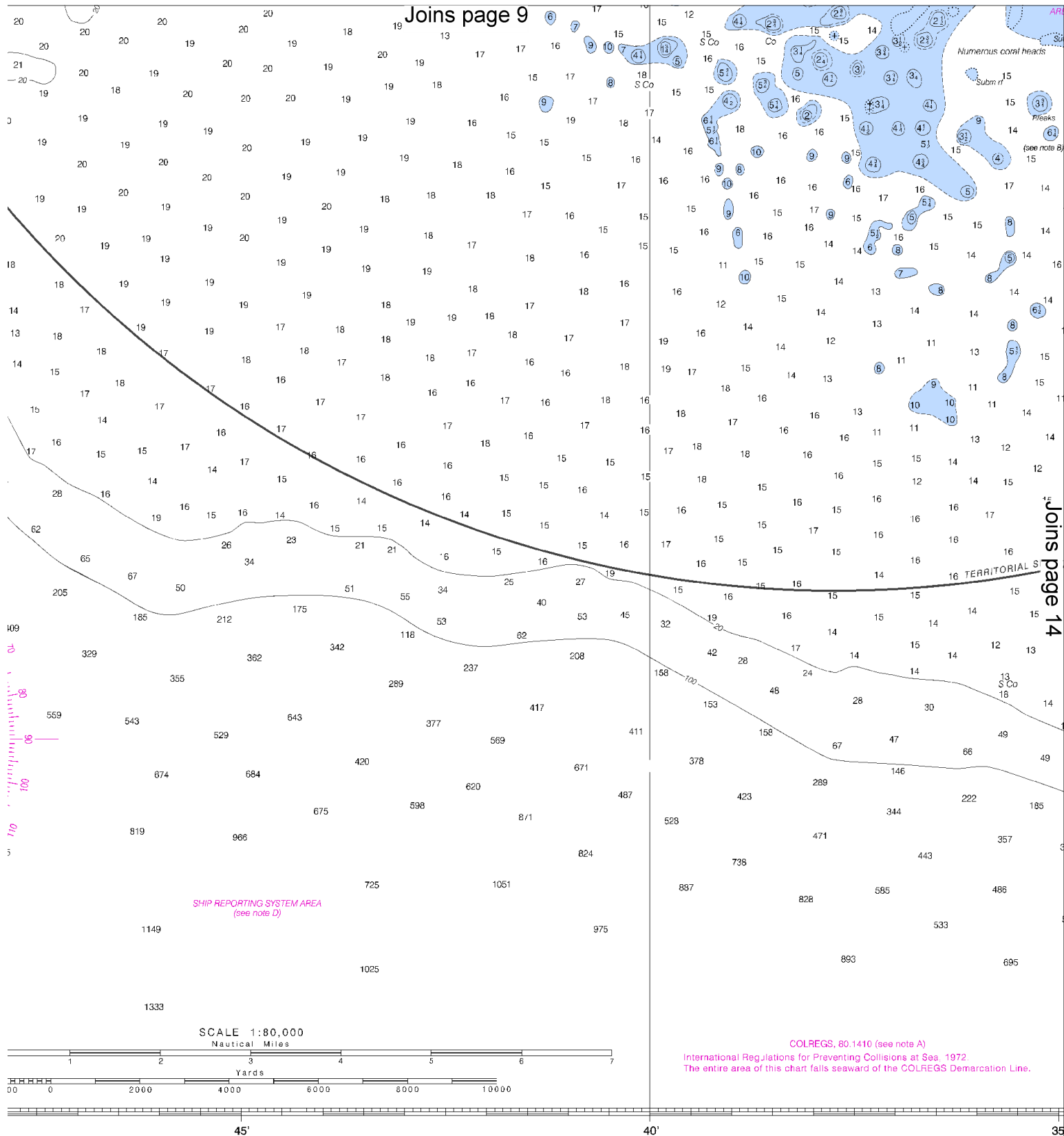


Printed at reduced scale.

SCALE 1:80,000

See Note on page 5.

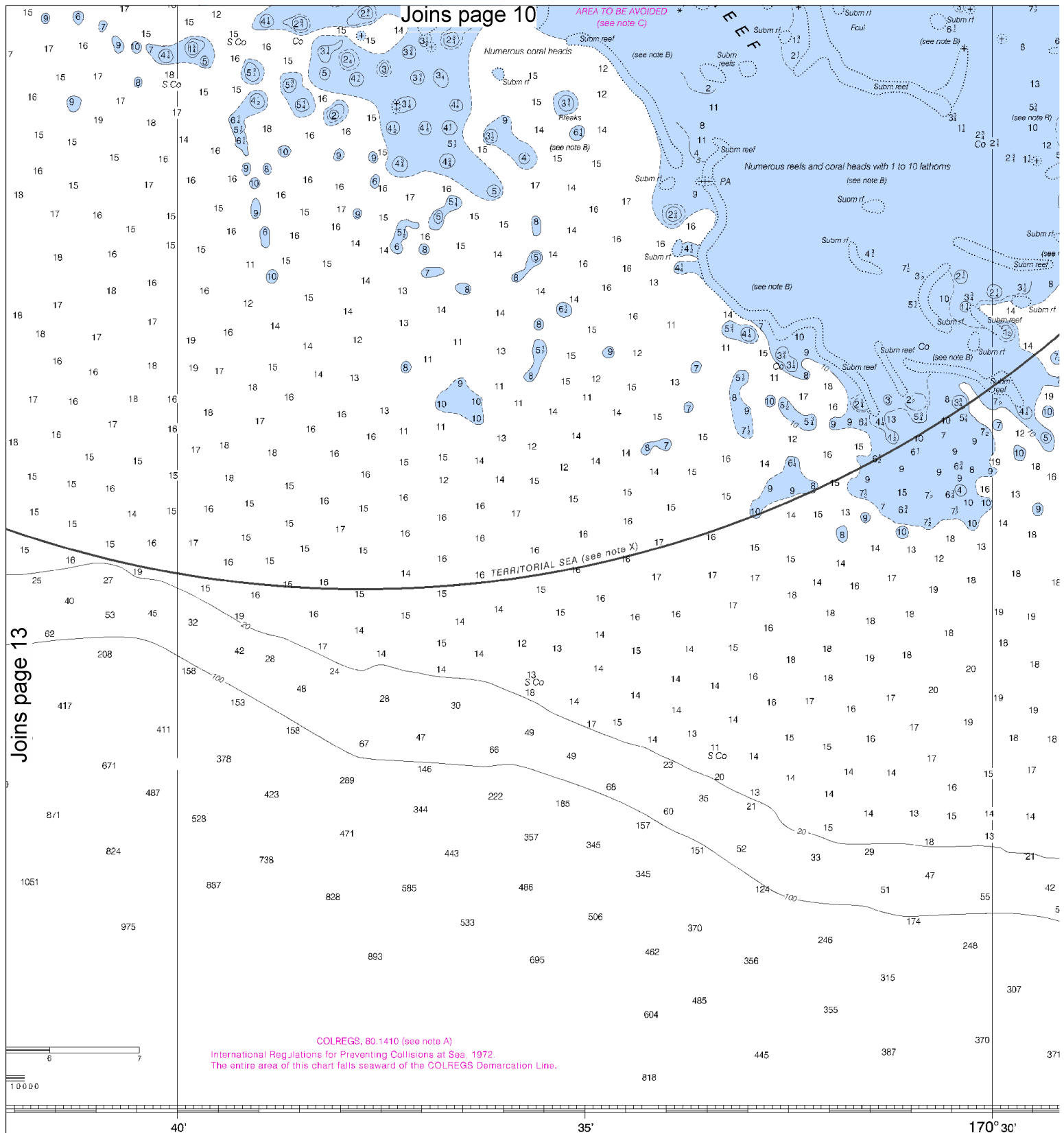




SOUNDINGS IN FATHOMS

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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

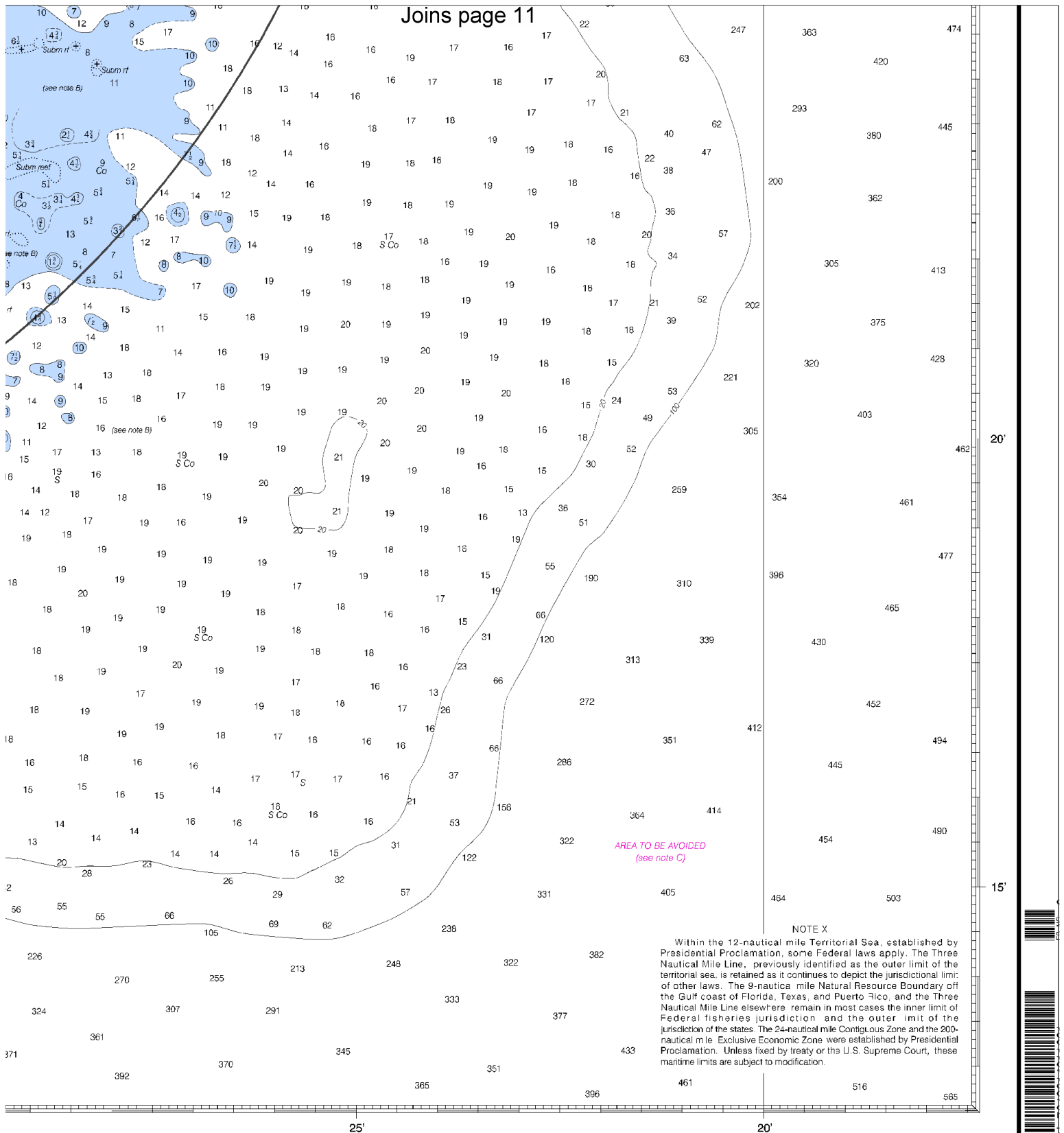
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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

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FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Maro Reef
SOUNDINGS IN FATHOMS - SCALE 1:80,000

19441

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 & 78A – Recreational boat channels.

Distress Call Procedures

1. Make sure radio is on.
2. Select Channel 16.
3. Press/Hold the transmit button.
4. Clearly say: "MAYDAY, MAYDAY, MAYDAY."
5. Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
6. Release transmit button.
7. Wait for 10 seconds – If no response Repeat MAYDAY Call.

HAVE ALL PERSONS PUT ON LIFE JACKETS !!

Mobile Phones – Call 911 for water rescue.

Coast Guard Search & Rescue – 510-437-3700

Coast Guard Search & Rescue – 808-541-2500

NOAA Weather Radio – 162.400 MHz, 162.425 MHz, 162.450 MHz, 162.475 MHz, 162.500 MHz, 162.525 MHz, 162.550 MHz.

Getting and Giving Help – Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.



NOAA CHARTING PUBLICATIONS

Official NOAA Nautical Charts – NOAA surveys and charts the national and territorial waters of the U.S., including the Great Lakes. We produce over 1,000 traditional nautical charts covering 3.4 million square nautical miles. Carriage of official NOAA charts is mandatory on the commercial ships that carry our commerce. They are used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters. NOAA charts are available from official chart agents listed at: www.NauticalCharts.NOAA.gov.

Official Print-on-Demand Nautical Charts – These full-scale NOAA charts are updated weekly by NOAA for all Notice to Mariner corrections. They have additional information added in the margin to supplement the chart. Print-on-Demand charts meet all federal chart carriage regulations for charts and updating. Produced under a public/private partnership between NOAA and OceanGrafix, LLC, suppliers of these premium charts are listed at www.OceanGrafix.com.

Official Electronic Navigational Charts (NOAA ENC[®]) – ENCs are digital files of each chart's features and their attributes for use in computer-based navigation systems. ENCs comply with standards of the International Hydrographic Organization. ENCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official Raster Navigational Charts (NOAA RNC[™]) – RNCs are geo-referenced digital pictures of NOAA's charts that are suitable for use in computer-based navigation systems. RNCs comply with standards of the International Hydrographic Organization. RNCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official BookletCharts[™] – BookletCharts[™] are reduced scale NOAA charts organized in page-sized pieces. The "Home Edition" can be downloaded from NOAA for free and printed. The Internet address is www.NauticalCharts.gov/bookletcharts.

Official PocketCharts[™] – PocketCharts[™] are for beginning recreational boaters to use for planning and locating, but not for real navigation. Measuring a convenient 13" by 19", they have a 1/3 scale chart on one side, and safety, boating, and educational information on the reverse. They can be purchased at retail outlets and on the Internet.

Official U.S. Coast Pilot[®] – The Coast Pilots are 9 text volumes containing information important to navigators such as channel descriptions, port facilities, anchorages, bridge and cable clearances, currents, prominent features, weather, dangers, and Federal Regulations. They supplement the charts and are available from NOAA chart agents or may be downloaded for free at www.NauticalCharts.NOAA.gov.

Official On-Line Chart Viewer – All NOAA nautical charts are viewable here on-line using any Internet browser. Each chart is up-to-date with the most recent Notices to Mariners. Use these on-line charts as a ready reference or planning tool. The Internet address is www.NauticalCharts.gov/viewer.

Official Nautical Chart Catalogs – Large format, regional catalogs are available for free from official chart agents. Page size, state catalogs are posted on the Internet and can be printed at home for free. Go to <http://NauticalCharts.NOAA.gov/mcd/ccatalogs.htm>.

Internet Sites: www.NauticalCharts.NOAA.gov, www.NOAA.gov, www.TidesandCurrents.NOAA.gov, www.NOS.NOAA.gov.